

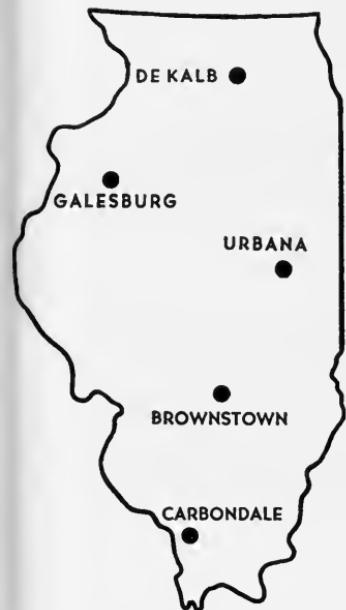








# 1955 ILLINOIS CORN TESTS



**Variety performance**  
**Seed treatment**  
**Diseases**

**Bulletin  
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Special acknowledgment is due W. C. Jacob for processing the data on Illiac (automatic digital computer) and to H. L. Portz, Southern Illinois University, for extensive assistance in conducting the Carbondale test. Acknowledgment is also due A. R. Kemp and Don Teel, farm adviser and assistant in Knox county, for assistance with the test at Galesburg.

# 1955 ILLINOIS CORN TESTS

By EARL R. LENG and BENJAMIN KOEHLER<sup>1</sup>

THE SECOND LARGEST CORN CROP in Illinois' history was harvested in 1955. The estimated total production was about 524 million bushels, second only to the record 564 million bushels harvested in 1948, and well above the 449 million bushels produced in 1954. Despite late summer heat and drouth in some sections of the state, and widespread occurrence of stalk rot and corn borer damage, the average estimated yield of 56 bushels per acre was 6.5 bushels above the 1954 average and about 4.5 bushels higher than the 10-year average.<sup>2</sup>

## PLAN OF THE TESTS

**Number of hybrids and their sources.** Two hundred fifty-two hybrids were grown on five major test fields. Forty-two companies and individuals and the Illinois Agricultural Experiment Station furnished seed for the tests.

Eighty-one hybrids were grown at DeKalb. Ninety hybrids were entered in the tests at Galesburg and Urbana. Seventy-two entries were grown at Brownstown and sixty-four hybrids at Carbondale. (For a summary of the tests and results on these fields, see Table 1.)

A representative of the Illinois Station or of the Illinois Crop Improvement Association collected seed for planting the test fields directly from the warehouses of the producers entering the respective hybrids. Seed of certain Illinois and other open-pedigreed hybrids was furnished by the Illinois Station.

**Selection of entries.** Each year producers of hybrid seed corn are given an opportunity to nominate hybrids for testing on the various fields. In 1955, for the first time in a number of years, a fee was charged for testing hybrids nominated in this manner.

<sup>1</sup> EARL R. LENG, Associate Professor of Agronomy, and BENJAMIN KOEHLER, Professor of Crop Pathology.

<sup>2</sup> Estimates of yields for the state were furnished by the ILLINOIS CO-OPERATIVE CROP REPORTING SERVICE, Illinois State Department of Agriculture cooperating with the U.S. Department of Agriculture.

**Location of  
1955 test  
fields**



The size of certain individual tests was increased, so that it was not necessary to reject any entries submitted.

Certain hybrids were entered in the tests to meet the field-performance requirements for certification. A few Station-produced open-pedigreed hybrids were included at each location, and several promising experimental hybrids were grown at some locations. The performance of additional experimental hybrids in 1955 and preceding years is reported in Illinois Bulletin 597.

**Table 1.—GENERAL INFORMATION:  
Illinois Hybrid Corn Tests, 1955**

Field, county, location, and number of entries	Date planted	Date harvested	Average acre- yield	Moisture in grain	Erect plants	Stand per cent.
DeKalb: DeKalb, N. 81.....	May 20	Oct. 19	84.7	24.8	89	89
Galesburg: Knox, WNC, 90.....	May 18	Oct. 20	108.2	23.3	92	90
Urbana: Champaign, C, 90.....	May 17	Oct. 25	107.3	18.0	60	89
Brownstown: Fayette, S, 72.....	June 3	Nov. 9	58.7	17.0	28	89
Carbondale: Jackson, Ex. S, 64.....	June 8	Oct. 29	81.7	20.5	92	87

**COOPERATORS:** RALPH ANDERSON and RALPH HAWTHORNE, *Knox county*; EARL SCHWARM and H. O. LEWIS, *Fayette county*; SOUTHERN ILLINOIS UNIVERSITY, *Jackson county*. Tests in *DeKalb* and *Champaign* counties were located on University of Illinois farms managed by R. E. BELL and C. H. FARNHAM. P. E. JOHNSON, Assistant Professor of Soil Fertility, supervised field operations on the test in *Fayette county*.

**Soil characteristics of fields.** The test fields are usually medium to high in productivity, and each represents a soil type common to the region where it is located. Each field is selected for uniformity in soil type, productivity, and drainage. Approximate locations of test fields are shown on the map on page 4. Soil characteristics and management are described in Table 2.

**Table 2.—TEST FIELDS: Soil Characteristics, Management Practices, and Rainfall in 1955**

Soil type	Lime requirement	Available phosphorus	Available potassium	Previous crops, soil management, and rainfall <sup>1</sup>
<b>NORTHERN: DeKalb</b>				
Flanagan silt loam.....	0	High	Very high	Corn 1951; oats 1952; red clover 1953; corn 1954; 400 pounds 0-10-30 plowed down; 250 pounds ammonium nitrate side-dressed; 3 tons limestone 1954; rock phosphate applied in 1950. Rainfall (inches): May 4.49; June 4.14; July 1.58; August 3.47.
<b>WEST NORTH-CENTRAL: Galesburg</b>				
Sable silty clay loam.....	1	High	Very high	Corn 1951; corn 1952; oats 1953; alfalfa and grass 1954; heavy manure application plowed down; 3 tons limestone applied 1953; rock phosphate applied 1947. Rainfall (inches): May 4.91; June 6.43; July 2.09; August 3.88.
<b>CENTRAL: Urbana</b>				
Drummer silty clay loam..	0	High	High	Soybeans 1951; corn 1952; oats 1953; clover-brome 1954; limestone applied 1955; rock phosphate applied in past. Rainfall (inches): May 2.94; June 3.01; July 5.47; August 1.83.
<b>SOUTHERN: Brownstown</b>				
Cisne silt loam.....	2	High	High	Corn 1951; oats and clover 1952; corn 1953; oats and clover 1954; 300 pounds muriate of potash broadcast before planting; 200 pounds ammonium nitrate side-dressed at second cultivation; limestone and rock phosphate applied in past. Rainfall (inches): May 4.17; June 2.63; July 6.42; August 3.30.
<b>EXTREME SOUTHERN: Carbondale</b>				
Bonnie silt loam.....	3	Low	Medium	No crop 1951; wheat 1952; lespediza 1953 and 1954; 275 pounds 0-0-60 plowed down; 300 pounds 0-45-0 disked in; 200 pounds 4-16-16 starter fertilizer applied at planting time; 60 pounds nitrogen equivalent side-dressed in two applications, June 31 and July 27; 4 tons limestone applied 1952. Rainfall (inches): May 5.20; June 4.09; July 2.16; August 0.88.

<sup>1</sup> Official rainfall data furnished by Illinois State Climatologist, data obtained from U.S. Weather Bureau publication, "Climatological Data for Illinois."

**Field-plot design.** A  $9 \times 9$  lattice-square field-plot design with 5 replications was used on the DeKalb field. The designs used at Galesburg and Urbana were  $9 \times 10$  rectangular-lattices with 3 replications, while an  $8 \times 9$  rectangular-lattice with 3 replications was used at Brownstown. The field-plot design at Carbondale was a randomized block test with 4 replications. Because of time limitations, the data from the Galesburg, Urbana, and Brownstown tests presented in this bulletin were analyzed by the procedure normally used for randomized block tests, rather than by the full procedure for rectangular lattices.

**Method of planting.** All test fields were planted by hand on land prepared in the normal way for corn. Individual plots consisted of 2 rows each 5 hills long. Four kernels were planted to the hill at DeKalb, Galesburg, and Urbana; 3 kernels were planted to the hill at Brownstown and Carbondale. Plots were not thinned.

## GROWING CONDITIONS

The 1955 growing season in Illinois was generally favorable. Excessive soil moisture delayed planting operations in some parts of southern Illinois, and both the northern and southern parts of the state were somewhat deficient in moisture during the latter part of the growing season.

The three northern test fields were planted in mid-May in good to excellent seedbeds and made vigorous growth. The DeKalb and Galesburg fields suffered to some extent from a lack of moisture in late July and August but produced excellent yields. Planting of the Brownstown and Carbondale plots was delayed until the first part of June by excessive soil moisture, and seedbeds on these two fields were unduly moist when the corn was planted. Heavy rainfall at both locations shortly after the corn was planted resulted in some loss of stands, and parts of the Brownstown field were replanted on June 20. Later growth and development on the two southern fields were excellent. However, late summer rainfall was deficient at Brownstown and especially lacking at Carbondale, and yields were lower than might otherwise have been produced (see rainfall data, Table 2).

Moderate to heavy corn-borer infestation occurred at DeKalb, and moderate infestations were noted at Galesburg and Urbana. However, very little stalk-breaking directly attributable to corn-borer injury was noted on these fields. Ear-dropping, probably resulting to a considerable extent from corn-borer damage, was more prevalent than usual on the three northern test fields.

Stalk breakage at Urbana and particularly at Brownstown was exceptionally severe. Most of this breakage occurred in September and early October, probably chiefly as the result of stalk rots. Less than 30 percent of the plants at Brownstown were erect at harvest, and only 60 percent were erect at Urbana. As a result, grain quality was rather poor in many plots on these two fields.

Moderate stalk-rot infection occurred in the Carbondale test field, with *Diplodia*, *Gibberella*, and *Charcoal Rot* being noted. Relatively little stalk-breaking, however, occurred on this field. Little stalk-rot injury was noted at either DeKalb or Galesburg, and the percentage of plants lodged in these two fields was low.

### DISEASE DAMAGE<sup>1</sup>

**Northern (Helminthosporium) leaf blight** occurred very sparsely, and rust likewise was of little importance in 1955. Ear rots also were at a comparatively low ebb, particularly *Diplodia*. From the standpoint of percent of kernels rotted, *Fusarium* was the most prevalent, damage being estimated at 0.3 percent; about one-third (32.8 percent) of the ears showed traces or more of the infection.

**Stewart's disease.** Symptoms of Stewart's disease could be found on many plants in any corn field in the southern two-thirds of Illinois and in occasional fields farther north. The effect, however, was mild and loss was estimated at only 0.3 percent.

**Smut.** Damage from smut was high in the northern part of Illinois, making the average for the state a little above average. The loss of yield was estimated at 2 percent.

<sup>1</sup> Data on disease prevalence and estimates of losses are based principally on surveys made by G. H. Boewe, Associate Botanist, Illinois State Natural History Survey.

**Stalk rots.** Stalk-rot damage, particularly down corn, was among the worst on record. Early in September scattered fields were reported in which stalks had rotted badly near the base and were breaking over; examination usually revealed the presence of *Diplodia*, *Gibberella*, and Charcoal Rot. Neighboring fields were usually still in good condition, and the cause for the difference was usually not clear. A little later, many more fields had stalk rot and were lodging, primarily because of *Gibberella* and Charcoal Rot.

*Diplodia* stalk infection was about average except in northern Illinois, where it was worse than usual but did not cause much lodging. *Gibberella* stalk infection was at an unusually high level throughout the state, about as high as in 1946 and 1951, the highest years on record.

Charcoal Rot caused the most damage ever known in Illinois. It was particularly bad in the southern half of the state, but there were some badly infected fields all the way to the northern boundary.

Charcoal Rot is aggravated by hot, moderately dry weather. Because that type of weather has been common in a considerable part of Illinois for three consecutive years, the disease has been increasing to unusual importance. It is a soil-borne disease of long standing in Illinois which attacks many crops but appears to do most damage to corn and sorghum. In years with cool summers, it is nearly impossible to find a specimen. Even in years like 1955, the disease may be very destructive in one field but practically absent in a field across the road.

Stalk rot sometimes was worse in highly fertile fields than in adjacent fields of lower fertility. This relationship appears to hold more for *Gibberella* and *Diplodia* than for Charcoal Rot.

Little direct relationship between stalk-rot infection and corn-borer attack was noted. The Charcoal Rot fungus usually entered the stalks below the soil surface, although a few cases of above-ground infections were seen. Most of the *Diplodia* and *Gibberella* rot started at nodes on the lower end of the stalk but practically none started beneath the surface of the soil. When infected stalks had been entered also by corn borers, their en-

trance was usually higher on the stalk, and in most stalks there was no connection between the corn-borer channels and the lower end of the stalk where the worst rot occurred. At the Brownstown field in south-central Illinois where stalk-rot damage was severe, there had been few corn borers.

## SEED TREATMENT TESTS

The seed used for the 1955 seed-treatment test consisted of a composite of three hybrids, which were obtained processed but untreated from commercial producers. They were: Ill. 1091 ( $WF9 \times Hy2$ ) ( $M14 \times 187-2$ ), Ill. 1731A ( $WF9 \times C103$ ) ( $Hy2 \times Oh7A$ ), and U.S. 13 ( $WF9 \times 38-11$ ) ( $L317 \times Hy$ ). All are adapted hybrids in popular use but unrelated to each other to a considerable extent. The seed was planted at the rate of 16,000 kernels per acre and as second-year corn in a rotation of corn, corn, oats, and clover.

The yields in 1955 were the highest ever obtained in these tests although this test was planted in the same rotation and received the same management as in previous years. Another unusual fact was that the first planting emerged from the soil in the same number of days (six) as the last planting. The middle planting emerged in five days. Yields decreased consistently with delay in planting.

The seed treatment gave highly significant increases in all three plantings. There were no significant interactions between treatment and planting date. The average of all three plantings showed some highly significant differences between treatments.

Increases in stand resulting from the treatment were greatest in the last planting, but the greatest increases in yield were in the first planting. Evidently the early planting was able to make better use of the additional stand and vigor that resulted from seed treatment.

Thiram and Captan compounds from several manufacturers were used, and in some tests the same compounds from different manufacturers appeared to differ significantly.

When an insecticide to protect the seed against soil-borne insects was added to Thiram and Captan compounds, no in-

TABLE 3.—SEED TREATMENT: Increases in Stands and Acre Yields From Treatment With Chemical Protectants  
(Composite tests of three hybrids, Urbana, 1955)

Treatment	Rate per bushel	Field stand	Acre yield
Planted May 2, emerged 6 days later			
	oz.	perct.	increase over check
None (check)	..	85.7	..
Arasan SF-X <sup>a</sup>	3/4	95.0	9.3
Thiram 75W <sup>b</sup>	3/4	93.6	7.9
Panoram <sup>c</sup>	3/4	94.8	9.1
Arasan M <sup>d</sup>	3/4	95.4	9.7
Captan 75W <sup>e</sup>	3/4	91.7	6.0
Orthocide 75 <sup>f</sup>	3/4	92.3	6.6
Ortho Seed Guard <sup>g</sup>	1 1/2	90.5	4.8
Delsan A-D <sup>h</sup>	1 1/4	93.6	7.9
TD-31 <sup>i</sup>	1 1/2	95.0	9.3
HL-807 <sup>j</sup>	1 1/2	92.9	7.2
Thioneb-50W <sup>k</sup>	1	89.9	4.2
Average increase	..	..	7.5
Planted May 16, emerged 5 days later			
	oz.	perct.	increase over check
None (check)	..	89.1	..
Arasan SF-X	3/4	94.6	5.5
Thiram 75W	3/4	94.6	5.5
Panoram	3/4	92.7	3.6
Arasan M	3/4	94.8	5.7
Captan 75W	3/4	92.7	3.6
Orthocide 75	3/4	96.4	7.3
Ortho Seed Guard	1 1/2	93.4	4.3
Delsan A-D	1 1/4	93.4	4.3
TD-31	1 1/2	90.1	1.0
HL-807	1 1/2	94.8	5.7
Thioneb-50W	1	92.5	3.4
Average increase	..	..	4.5
Planted May 26, emerged 6 days later			
	oz.	perct.	increase over check
None (check)	..	81.4	..
Arasan SF-X	3/4	93.9	12.5
Thiram 75W	3/4	88.1	6.7
Panoram	3/4	90.5	9.1
Arasan M	3/4	90.3	8.9
Captan 75W	3/4	90.5	9.1
Orthocide 75	3/4	92.5	11.1
Ortho Seed Guard	1 1/2	90.9	9.5
Delsan A-D	1 1/4	91.3	9.9
TD-31	1 1/2	90.3	8.9
HL-807	1 1/2	90.3	8.9
Thioneb-50W	1	88.7	7.3
Average increase	..	..	9.3
Average of all three planting dates			
	oz.	perct.	increase over check
None (check)	..	85.4	..
Arasan SF-X	3/4	94.5	9.1
Thiram 75W	3/4	92.1	6.7
Panoram	3/4	92.7	7.3
Arasan M	3/4	93.5	8.1
Captan 75W	3/4	91.6	6.2
Orthocide 75	3/4	93.7	8.3
Ortho Seed Guard	..	91.6	6.2
Delsan A-D	..	92.8	7.4
TD-31	..	91.8	6.4
HL-807	..	92.7	7.3
Thioneb-50W	..	90.4	5.0
Least significant difference at 5-percent level	..	2.2	2.2
Least significant difference at 1-percent level	..	2.9	2.9

<sup>a, b, e</sup> Active ingredient 75 percent thiram. <sup>d</sup> 75 percent thiram plus 2 percent methoxychlor. <sup>c, f</sup> 75 percent captan. <sup>g</sup> Captan 50 percent plus lindane 16.5 percent. <sup>b</sup> Thiram 60 percent plus dieldrin 15 percent. <sup>i</sup> Thiram 56.2 percent, dieldrin 18.8 percent. <sup>j</sup> Captan 50 percent plus dieldrin 17 percent. <sup>k</sup> Polyethylene thiram sulfide 50 percent.

<sup>a, d, h</sup> E. I. du Pont de Nemours & Co., Wilmington, Delaware. <sup>b, k</sup> Naugatuck Chemical Division, U. S. Rubber Co., Naugatuck, Connecticut. <sup>c, i</sup> Panogen Inc., Ringwood, Illinois. <sup>e</sup> Stauffer Chemical Co., San Francisco, California. <sup>f, g, j</sup> California Spray-Chemical Corp., Richmond, California.

crease in yield or stand resulted. Similar results were obtained in 1954, so the value of using insecticides in this manner appears doubtful. In cold tests, formulations containing dieldrin actually caused lower stands than the same fungicide without the insecticide. No harmful effects were noted in these field tests, in which germinating conditions were a little better than average, especially for the early planting, and very much better than in the cold test.

## MEASURING PERFORMANCE

The entries of the 1955 test are listed in the tables in alphabetical order. It is hoped this arrangement will reduce the emphasis often placed on yield alone.

**Yield of grain.** To determine shelling percentage, all the ears from one replicate of each entry were shelled immediately after harvest. From the well-mixed shelled corn one sample was taken to determine the percentage of moisture at harvest.<sup>1</sup>

The total acre-yield was calculated as shelled corn containing 15.5 percent moisture, the upper limit allowable in No. 2 corn. The total yield thus obtained for the DeKalb test was adjusted according to the procedure outlined by Cochran for randomized lattice-square designs.<sup>2</sup>

**Erect plants.** The percentage of erect plants in each plot of each entry on each field was estimated at the time of harvest. Lodging may have been due to rootworm damage, weak or rotted roots, corn-borer damage, stalk rots, or weak stalks. Stalks broken above the ear were not considered lodged.

**Dropped ears.** At harvest time, the number of dropped ears in each plot was recorded in the DeKalb, Galesburg, Urbana, and Carbondale tests. Ear-dropping may have resulted from European corn-borer damage or from other causes. There were very few dropped ears at Brownstown, and so data on this characteristic were not recorded. The percentage of dropped ears was calculated by dividing the number of dropped ears in a given plot by the number of plants in that plot.

**Stand.** A count was made in late summer, at all fields, of the number of missing hills and number of missing plants in each plot of

<sup>1</sup> All moisture determinations were made with a Steinlite or a Radson moisture tester.

<sup>2</sup> Cochran, W. G. "Some Additional Lattice-Square Designs." *Iowa Agr. Exp. Sta. Res. Bul. 318.* May, 1943.

each variety. It is assumed that missing hills were due to some factor other than the hybrid itself. Yields were corrected for missing hills by the following adjustment:

$$\text{Ear weight in field} \times \left( 1 + \frac{\text{missing hills}}{\text{hills present}} \times .6 \right) = \text{adjusted ear weight.}$$

The percent stand is based on the total number of missing plants in relation to the number that would have been present if all the kernels had produced plants. Stand differences may be due to poor germination, to disease, insect, or rodent destruction, or in some cases to destruction in cultivation.

**Readers are urged to keep in mind these two things when comparing the performance of hybrids on any one field:**

1. Small differences in any one year do not necessarily indicate that one hybrid is inherently superior to another. In comparing the performance of two hybrids, figures may be obtained representing the range which differences between two entries must exceed before they can be considered significantly different. The method used in determining this value is called the "Multiple Range test."<sup>1</sup> This method considers the number of entries that fall within the range as well as the variability of the test. It has been used in presenting the data from the five main tests discussed in this bulletin (Tables 4, 5, 6, 7, and 8). In each of these tables, the performance of the highest-yielding hybrid and of *all entries not significantly different from it in yield* are shown in boldface type. For each characteristic other than yield, the "difference necessary for significance" or "least significant difference" has been computed in the conventional manner.

2. Tests covering three years (see upper part of yield tables) give more reliable results than those covering only one year. The fact that a hybrid does not appear in the summary is, however, nothing against it — its absence merely means that 1955 was the first year it was tested or that it missed one year of the series.

<sup>1</sup> DUNCAN, D. B. "Multiple Range and Multiple F Tests." *Biometrics* 11, (1), 1-43. 1955.

Table 4.—NORTHERN ILLINOIS: DeKalb

(Performance data of highest-yielding hybrid and of all hybrids not significantly lower in yield are shown in boldface type)

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>SUMMARY: 1953-1955</b>					
Hulting 238.....	109.7	21.4	93	91	...
<b>P.A.G. 234.....</b>	<b>105.5</b>	<b>21.2</b>	<b>94</b>	<b>87</b>	...
Illinois 1091A (Dittmer).....	105.4	22.1	95	87	...
<b>Sieben S-340.....</b>	<b>105.1</b>	<b>22.9</b>	<b>95</b>	<b>92</b>	...
Holmes 11A.....	104.6	20.4	95	88	...
<b>Munson M5.....</b>	<b>104.3</b>	<b>21.9</b>	<b>91</b>	<b>89</b>	...
Producers 510.....	103.9	21.2	95	89	...
<b>P.A.G. 277.....</b>	<b>103.6</b>	<b>20.7</b>	<b>90</b>	<b>85</b>	...
<b>Munson M77.....</b>	<b>103.2</b>	<b>22.4</b>	<b>92</b>	<b>86</b>	...
<b>P.A.G. 244.....</b>	<b>103.2</b>	<b>21.1</b>	<b>91</b>	<b>89</b>	...
Bear OK-28.....	103.1	21.8	88	88	...
Frey 410.....	102.9	21.8	96	89	...
Hulting 240.....	102.4	21.4	95	89	...
Nichols 75A.....	102.4	22.0	94	90	...
Crow's 402.....	101.9	21.6	94	82	...
Pioneer 325.....	101.6	22.1	96	90	...
Pioneer 347.....	101.4	20.7	91	88	...
<b>Stiegelmeier S-379.....</b>	<b>101.4</b>	<b>19.1</b>	<b>94</b>	<b>90</b>	...
Ainsworth X-12.....	101.3	21.2	97	87	...
Huebsch 81.....	100.8	21.6	94	89	...
<b>Sieben S-440E.....</b>	<b>98.1</b>	<b>20.8</b>	<b>94</b>	<b>85</b>	...
Funk G-16A.....	98.0	21.1	94	84	...
Doubet D-45.....	97.8	21.6	96	83	...
<b>Sieben S-450.....</b>	<b>97.8</b>	<b>19.6</b>	<b>96</b>	<b>85</b>	...
Illinois 101 (Huebsch).....	97.5	21.9	93	88	...
Huebsch 24.....	97.4	19.5	95	85	...
Tiemann T-61.....	97.4	21.7	96	90	...
Crow's 260.....	97.3	20.6	94	85	...
Funk G-77A.....	97.2	20.9	95	83	...
Producers 315.....	97.2	21.2	91	87	...
Moews 14.....	96.6	20.4	93	84	...
Nichols 5B.....	96.6	21.6	94	90	...
Keystone 44.....	96.4	20.7	95	81	...
Frey 425.....	96.0	23.0	94	88	...
<b>Sieben S-560.....</b>	<b>95.9</b>	<b>21.1</b>	<b>96</b>	<b>80</b>	...
Crow's 487.....	95.7	20.0	95	82	...
Producers 314.....	95.6	19.9	91	85	...
Crow's 432.....	95.0	22.1	97	87	...
<b>DeKalb 406.....</b>	<b>94.7</b>	<b>22.6</b>	<b>94</b>	<b>88</b>	...
DeKalb 455.....	92.3	22.4	92	85	...
Moews 14E.....	87.1	19.3	93	90	...
Moews 86.....	86.8	19.1	95	88	...
<b>Average of all entries.....</b>	<b>99.3</b>	<b>21.2</b>	<b>94</b>	<b>87</b>	...
<b>Difference necessary for significance.....</b>	<b>11.4</b>	<b>2.4</b>	<b>4.8</b>	<b>8.4</b>	...

**1955 RESULTS**

Ainsworth X-12.....	80.3	23.9	94	88	8.6
Bear OK-28.....	82.4	27.7	80	89	5.9
<b>Bear OK-414.....</b>	<b>90.8</b>	<b>23.8</b>	<b>93</b>	<b>92</b>	<b>2.3</b>
Crow's 260.....	84.9	23.8	88	86	2.8
<b>Crow's 402.....</b>	<b>93.5</b>	<b>26.3</b>	<b>89</b>	<b>81</b>	<b>1.7</b>
Crow's 432.....	80.9	23.9	96	86	2.8
<b>Crow's 487.....</b>	<b>89.3</b>	<b>21.5</b>	<b>91</b>	<b>96</b>	<b>3.6</b>
DeKalb 406.....	79.0	26.3	90	94	6.8
<b>DeKalb 409.....</b>	<b>91.7</b>	<b>24.3</b>	<b>86</b>	<b>93</b>	<b>2.6</b>
<b>DeKalb 410.....</b>	<b>91.9</b>	<b>25.3</b>	<b>88</b>	<b>90</b>	<b>4.4</b>
DeKalb 414.....	80.4	22.1	91	92	2.6
DeKalb 415.....	86.7	24.0	86	90	3.1
DeKalb 455.....	70.3	29.6	89	88	3.7
<b>DeKalb 459.....</b>	<b>96.5</b>	<b>23.8</b>	<b>83</b>	<b>92</b>	<b>.5</b>
<b>DeKalb 627.....</b>	<b>90.1</b>	<b>26.0</b>	<b>92</b>	<b>84</b>	<b>3.0</b>
<b>DeKalb 630.....</b>	<b>91.3</b>	<b>24.0</b>	<b>83</b>	<b>90</b>	<b>2.7</b>
Doubet D-25E.....	82.4	23.8	92	94	5.2
<b>Doubet D-45.....</b>	<b>91.3</b>	<b>24.8</b>	<b>94</b>	<b>89</b>	<b>5.6</b>

(Table is concluded on next page)

Table 4.—NORTHERN ILLINOIS: DeKalb—concluded

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>1955 RESULTS—concluded</b>					
	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>
Frey 410.....	94.1	27.6	91	91	1.7
Frey 425.....	78.4	29.5	91	92	6.1
Funk G-16A.....	81.8	25.6	89	91	1.9
Funk G-77A.....	84.1	25.4	89	88	4.0
Graham G.C. 711.....	80.6	29.0	83	85	1.1
Holmes 11A.....	92.4	23.9	91	92	2.6
Holmes 17A.....	93.3	23.6	84	87	1.2
Huebsch 24.....	84.3	20.2	92	83	3.2
Huebsch 81.....	87.8	25.3	92	90	3.5
Hulting J-41.....	72.3	26.3	96	93	3.9
Hulting 238.....	94.8	25.4	87	90	2.3
Hulting 240.....	83.5	25.6	93	89	6.9
Hulting 381.....	73.6	21.9	90	90	1.7
Illinois 21 (Mountjoy).....	86.8	25.1	94	90	5.6
Illinois 101 (Huebsch).....	77.7	23.1	86	87	4.6
Illinois 1091A (Dittmer).....	83.8	24.0	89	91	1.1
Illinois 1280 (Coldwater).....	86.4	25.4	88	86	2.2
Illinois 1863 (Huebsch).....	78.2	26.3	93	86	3.6
Illinois 1902A (Station).....	69.5	23.1	83	94	2.7
Keystone 44.....	83.1	23.8	88	87	5.4
Moews 14.....	85.5	23.8	90	93	9.5
Moews 14E.....	63.7	22.3	84	91	7.6
Moews 14EE.....	72.2	22.9	87	87	7.5
Moews 14DR.....	86.4	26.0	94	88	.7
Moews 15.....	84.7	24.4	90	93	2.7
Moews 16.....	75.7	25.9	88	81	1.4
Moews 86.....	68.8	22.7	88	92	5.6
Moews 5059.....	80.7	23.5	93	84	10.0
Moews 5060.....	80.3	27.9	92	97	9.6
Moews 5063.....	79.2	26.5	93	85	6.0
Munson M5.....	84.4	25.3	82	88	4.0
Munson M77.....	87.2	25.4	82	94	5.8
Nichols 5B.....	79.9	26.2	89	96	2.1
Nichols 43.....	97.0	26.2	89	89	1.8
Nichols 75A.....	84.5	25.6	88	90	1.1
P.A.G. 222.....	91.2	22.9	89	89	6.3
P.A.G. 234.....	95.0	25.1	89	88	2.2
P.A.G. 244.....	85.0	25.7	81	88	4.0
P.A.G. 253.....	81.2	23.5	88	87	2.6
P.A.G. 277.....	88.0	23.2	75	88	5.0
P.A.G. 8401.....	85.6	24.3	89	94	3.2
Pioneer 325.....	84.1	24.8	92	93	6.6
Pioneer 345.....	95.8	29.0	92	89	6.9
Pioneer 347.....	74.0	23.5	79	89	1.7
Pioneer 354.....	98.0	23.6	93	86	9.0
Producers 314.....	81.0	22.0	82	89	4.0
Producers 315.....	88.0	23.8	83	92	5.4
Producers 326.....	86.8	21.0	92	85	4.8
Producers 510.....	84.5	26.5	91	93	2.4
Producers E6450.....	88.8	24.4	91	93	4.8
Producers E6451.....	82.4	26.9	88	87	1.6
Sieben S-340.....	86.1	26.3	92	89	5.0
Sieben S-440E.....	85.8	24.0	88	83	1.7
Sieben S-450.....	88.4	21.4	93	89	4.4
Sieben S-560.....	87.4	24.7	91	89	2.8
Stewart S-56.....	95.7	25.1	87	84	1.1
Stewart S-66.....	94.9	26.8	84	86	3.5
Stewart S-66B.....	87.9	29.0	96	84	5.3
Steckley GG3.....	85.3	22.0	91	87	1.7
Stiegelmier S-379.....	81.7	21.2	94	94	9.7
Super-Crost 440.....	91.2	26.9	84	83	2.7
Tiemann T-61.....	79.7	25.3	91	87	1.7
Tiemann T-68.....	84.8	25.3	84	98	8.0
<i>Average of all entries</i> .....	84.7	24.8	89	89	4.0
<i>Difference necessary for significance</i> .....	11.3	....	7.8	6.5	4.4

Table 5.—WEST NORTH-CENTRAL ILLINOIS: Galesburg

(Performance data of highest-yielding hybrid and of all hybrids not significantly lower in yield are shown in boldface type)

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>SUMMARY: 1953-1955</b>					
Holmes 39	115.3	21.5	84	87	...
Pioneer 313B	110.1	21.4	67	89	...
Tiemann T-78	106.4	19.8	86	91	...
Schwenk S-24	105.2	20.0	84	92	...
Schwenk S-34	105.1	20.1	91	92	...
Funk G-95	105.0	20.4	85	88	...
Null 83	104.4	20.9	89	85	...
Funk G-95A	104.0	20.4	87	87	...
Munson M5	103.9	18.5	84	91	...
Illinois 1570 <sup>a</sup>	102.1	19.5	82	90	...
Crow's 407	101.9	19.7	88	89	...
Producers 940	101.5	19.8	88	89	...
Illinois 21 (Dittmer)	100.7	20.3	89	92	...
Bruns P-37	100.6	20.0	78	85	...
Producers 900	100.4	19.9	84	91	...
DeKalb 847	100.3	20.4	86	91	...
Sieben S-320	100.2	18.7	88	90	...
Moews 524	99.9	20.2	92	91	...
Moews 520	99.1	20.6	89	84	...
P.A.G. 403	99.0	21.9	94	91	...
Sieben S-340	99.0	18.1	84	88	...
Bear OK-24	98.9	21.7	86	93	...
Morton MI-303	97.8	20.8	91	90	...
Ainsworth X-21	96.5	18.5	83	92	...
Doubet D-25	96.0	20.0	90	87	...
P.A.G. 303	95.9	19.5	90	90	...
Huey H-23	95.8	20.0	84	87	...
Huey H-235	95.5	21.0	87	91	...
Hulting 102	94.6	19.4	88	91	...
Crow's 608	93.9	20.0	89	84	...
Crow's 402	86.9	18.8	87	83	...
Tiemann T-61	86.9	19.3	84	91	...
Average of all entries	100.1	20.0	86	89	...
Difference necessary for significance	13.0	2.3	7.5	5.4	...

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Ainsworth X-12	91.6	24.3	95	94	5.3
Ainsworth X-14-3	101.0	25.2	92	89	0
Ainsworth X-21	98.4	19.2	86	92	2.7
Appl A-130	115.2	23.8	93	97	.9
Appl A-159	115.1	26.3	92	93	3.4
Appl A-259	105.1	21.4	96	79	0
Bear OK-24	105.2	26.0	98	94	0
Bear OK-417	107.8	23.1	92	86	0
Brunn P-37	101.4	22.4	84	77	4.9
Crow's 402	86.5	21.2	95	84	0
Crow's 407	107.9	22.2	92	91	0
Crow's 608	101.3	23.4	96	86	1.2
Currens 200	101.4	24.1	91	89	0
DeKalb 630	107.5	26.7	95	98	.8
<b>DeKalb 820</b>	<b>121.1</b>	<b>23.1</b>	<b>94</b>	<b>92</b>	<b>.9</b>
DeKalb 837	113.4	23.9	96	89	2.0
DeKalb 847	114.0	21.8	93	91	1.0
DeKalb 852	98.7	24.3	98	65	1.2
DeKalb 875	102.8	26.1	93	81	.9
Doubet D-25	106.8	25.7	92	92	1.8
Doubet D-41	112.4	23.8	96	96	3.5
<b>Funk G-95</b>	<b>118.7</b>	<b>24.5</b>	<b>93</b>	<b>94</b>	<b>0</b>
Funk G-95A	112.3	24.1	93	89	2.9

<sup>a</sup> Average of Illinois 1570 (Station) 1953, Illinois 1570 (Graham) 1954, and Illinois 1570 (Dittmer) 1955.

(Table is concluded on next page)

Table 5.—WEST NORTH-CENTRAL ILLINOIS:  
Galesburg — concluded

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>1955 RESULTS — concluded</b>					
	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>
Graham G.C. 720.....	101.7	24.6	98	89	.9
Graham G.C. 870.....	110.2	26.1	85	93	1.8
Graham G.C. 880.....	107.2	19.2	98	89	4.6
<b>Holmes 39.....</b>	<b>129.7</b>	<b>24.9</b>	<b>87</b>	<b>87</b>	<b>5.6</b>
Holmes 47.....	104.8	22.4	92	84	2.2
Huey H-23.....	94.9	24.3	90	83	5.4
Huey H-235.....	104.6	24.6	93	89	0
Hulting 102.....	99.7	21.6	86	94	.9
Hulting 380B.....	119.7	21.2	85	94	0
Hulting 680.....	108.6	23.1	95	94	1.8
Illinois 21 (Dittmer).....	116.1	22.7	93	98	3.4
Illinois 1091 (Mountjoy).....	110.2	23.8	89	92	1.0
Illinois 1370 (Dittmer).....	113.3	23.5	87	92	1.9
Illinois 1831 (Station).....	111.9	24.1	92	93	2.9
Keystone 48.....	110.6	23.9	94	91	.9
Moews 520.....	104.8	24.5	88	85	.9
Moews 523.....	101.6	24.6	88	88	6.0
Moews 524.....	109.0	22.2	96	94	3.5
Moews 550.....	104.8	19.9	95	87	3.8
Moews 5061.....	102.7	21.1	91	90	2.7
Moews 5062.....	114.0	22.4	93	92	1.0
Morton M-12A.....	106.4	23.3	95	92	2.9
Morton M-303.....	103.4	24.9	95	93	5.3
Munson M5.....	105.0	20.4	91	92	.9
Munson M13.....	96.8	23.0	86	83	1.7
Null 68.....	110.5	22.8	96	91	0
Null 83.....	115.5	24.3	93	93	2.7
P.A.G. 303.....	102.3	21.8	98	87	2.0
P.A.G. 347.....	109.5	21.2	91	85	1.0
P.A.G. 383.....	110.9	23.9	95	93	4.4
P.A.G. 401.....	109.1	24.8	95	94	3.5
P.A.G. 403.....	107.2	27.4	96	94	7.0
<b>Pioneer 301B.....</b>	<b>119.3</b>	<b>21.1</b>	<b>94</b>	<b>90</b>	<b>3.7</b>
<b>Pioneer 313B.....</b>	<b>119.7</b>	<b>25.2</b>	<b>69</b>	<b>82</b>	<b>2.7</b>
Pioneer 316.....	107.1	23.5	94	87	1.8
Pioneer 329.....	118.5	21.9	96	92	1.8
Pioneer 6063.....	119.9	24.9	87	92	0
Pioneer 6727.....	133.2	24.5	89	93	1.8
Producers 13-1.....	112.2	24.6	95	89	1.0
Producers 510.....	111.1	21.1	93	97	0
Producers 717.....	103.9	21.9	89	94	4.4
Producers 900.....	106.1	21.6	88	93	.9
Producers 940.....	113.6	21.9	91	89	1.0
Producers E6450.....	100.4	22.8	87	92	.9
Producers E6451.....	101.7	25.2	97	95	0
Schwenk S-24.....	114.7	23.5	92	94	.9
Schwenk S-27A.....	107.5	24.5	89	95	2.6
Schwenk S-34.....	113.0	23.5	96	93	0
<b>Sieben S-320.....</b>	<b>118.3</b>	<b>19.5</b>	<b>94</b>	<b>91</b>	<b>2.7</b>
Sieben S-340.....	112.6	20.7	91	90	1.9
Sieben S-360.....	113.3	23.9	98	94	.8
Sieben S-440.....	95.6	20.4	85	84	3.0
Smiley M-8.....	91.8	22.3	98	78	7.2
Stewart S-60.....	104.4	25.4	95	93	1.9
Stewart S-130.....	105.8	23.8	83	93	1.8
Stiegelmeier S-340.....	99.2	24.1	96	93	1.7
Stiegelmeier S-400.....	101.5	24.8	95	96	1.7
Super-Crost 660.....	101.8	22.4	91	93	.9
Tiemann T-61.....	89.9	22.4	92	93	2.6
Tiemann T-68.....	115.9	21.8	95	99	6.8
Tiemann T-78.....	112.2	22.0	93	91	1.9
Trisler T-19B.....	111.0	24.1	91	81	1.4
Trisler T-32.....	104.9	24.3	94	88	1.9
Trisler T-32B.....	114.2	25.5	94	94	2.8
Trisler T-33.....	113.4	22.4	88	93	.9
Trisler T-33B.....	109.4	23.7	96	85	2.0
<b>Whisnand 830.....</b>	<b>117.3</b>	<b>24.2</b>	<b>96</b>	<b>94</b>	<b>0</b>
Average of all entries.....	108.2	23.3	92	90	2.0
Difference necessary for significance.....	16.6	....	7.7	13.6	4.8

Table 6.—CENTRAL ILLINOIS: Urbana

(Performance data of highest-yielding hybrid and of all hybrids not significantly lower in yield are shown in boldface type)

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>SUMMARY: 1953-1955</b>					
Holmes 39.	115.2	17.0	73	94	...
Canterbury 420.	112.6	16.8	88	94	...
Appl A-159.	112.2	17.2	84	93	...
Funk G-95.	110.5	16.1	80	89	...
Bear OK-72.	110.5	16.7	86	96	...
Canterbury 400.	109.9	15.7	85	96	...
Appl A-130.	108.5	15.6	83	90	...
Frey 692.	108.5	16.3	81	92	...
Funk G-95A.	108.2	15.9	84	93	...
Pioneer 313B.	107.9	15.9	73	94	...
Munson M119.	107.7	15.9	82	89	...
P.A.G. 173.	107.6	16.3	83	91	...
Holmes 13.	107.5	16.7	86	95	...
Tiemann T-72.	107.5	15.6	88	89	...
Illinois 1570 <sup>a</sup> .	106.9	16.1	76	93	...
Schwenk S-24.	106.7	16.3	80	92	...
Trisler T-32B.	106.7	16.9	86	88	...
Frey 892.	106.1	16.2	86	90	...
Pioneer 302.	106.1	17.4	78	92	...
Morton M-70.	105.7	16.0	78	92	...
Crow's 825.	105.6	15.5	91	88	...
AES 805 <sup>b</sup> .	105.2	16.9	91	93	...
Producers 940.	104.8	15.4	76	93	...
Trisler T-32.	104.8	16.1	83	91	...
U.S. 13 (Stone).	104.6	15.8	81	91	...
Canterbury 404.	104.6	15.5	80	93	...
Tiemann T-78.	104.4	15.2	86	92	...
Ainsworth X-14-3.	104.1	16.2	81	91	...
Producers 13-1.	104.1	16.5	82	92	...
Frey 645.	103.4	15.6	82	93	...
Funk G-91.	103.0	16.8	87	88	...
P.A.G. 403.	102.6	16.2	87	94	...
Crow's 608.	102.3	15.6	83	92	...
Crow's 638.	101.2	15.3	93	89	...
Illinois 21 (Mountjoy).	101.0	15.3	81	88	...
Illinois 1246 <sup>c</sup> .	100.4	15.5	80	93	...
Whisnand 804.	100.1	16.8	82	92	...
Moews 523.	99.8	16.1	77	91	...
Moews 524.	99.3	16.1	82	93	...
Doubet D-43.	99.2	16.9	87	91	...
Producers 900.	98.9	15.7	83	91	...
Keystone 38A.	98.8	16.6	86	86	...
Doubet D-41.	98.6	16.2	90	90	...
DeKalb 875.	98.4	16.7	87	90	...
DeKalb 847.	98.1	15.3	86	93	...
<b>Average of all entries.</b>	<b>104.9</b>	<b>16.1</b>	<b>83</b>	<b>92</b>	...
<b>Difference necessary for significance.</b>	<b>11.3</b>	<b>1.2</b>	<b>10.5</b>	<b>6.2</b>	...

<sup>a</sup> Average of Illinois 1570 (Stone) 1953, Illinois 1570 (Mountjoy) 1954, and Illinois 1570 (Stone) 1955.

<sup>b</sup> Average of AES 805 (Stone) 1953 and 1954, and AES 805 (Station) 1955.

<sup>c</sup> Average of Illinois 1246 (Mountjoy) 1953 and 1954, and Illinois 1246 (Station) 1955.

(Table is continued on next page)

Table 6.—CENTRAL ILLINOIS: Urbana—continued

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>1955 RESULTS</b>					
	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>
AES 805 (Station).....	113.6	19.6	82	90	14.8
Ainsworth X-12.....	103.5	16.5	55	89	7.2
Ainsworth X-13-3 <sup>a</sup> .....					
Ainsworth X-14-3.....	98.3	19.5	59	86	15.6
Ainsworth X-21.....	97.5	17.1	66	82	6.2
Appl A-130.....	107.8	17.7	56	86	2.9
Appl A-159.....	116.5	17.8	66	90	11.9
Bear OK-24.....	105.8	18.9	76	96	16.5
Bear OK-69.....	113.9	18.3	57	87	2.8
Bear OK-72.....	113.6	17.9	67	96	3.5
Bear OK-96.....	115.5	18.4	61	88	13.0
Canterbury 400.....	105.0	17.6	62	93	6.1
Canterbury 404.....	109.7	17.9	52	91	7.2
Canterbury 420.....	119.9	18.8	73	92	3.6
Crow's 608.....	106.7	17.7	57	93	10.8
Crow's 638.....	101.9	17.0	84	84	3.1
Crow's 825.....	103.6	16.4	78	90	8.2
Currens 301.....	116.5	16.9	56	81	6.0
DeKalb 816.....	99.6	16.4	64	85	8.9
DeKalb 817A.....	102.0	17.8	48	87	3.4
DeKalb 847.....	95.1	17.7	66	88	1.9
DeKalb 852.....	103.6	17.7	63	82	9.2
DeKalb 875.....	104.9	17.7	70	92	8.0
DeKalb 876.....	109.8	19.8	65	92	8.2
Doubet D-41.....	98.0	18.7	79	95	4.3
Doubet D-43.....	96.4	18.2	68	88	13.3
Frey 645.....	102.9	17.0	64	88	9.5
Frey 692.....	116.2	18.2	52	90	4.3
Frey 892.....	109.3	17.3	66	87	8.6
Funk G-91.....	94.0	18.9	69	85	10.9
Funk G-95.....	107.1	19.0	55	86	6.8
Funk G-95A.....	117.9	16.8	59	91	2.6
Graham G.C. 720.....	106.0	18.3	60	92	9.0
Graham G.C. 870.....	115.2	17.7	49	94	6.2
Graham G.C. 880.....	112.0	16.9	55	90	.9
Griffith 125-2.....	109.8	18.9	64	93	5.3
Holmes 13.....	103.2	18.0	68	92	8.8
Holmes 39.....	121.5	18.3	30	94	3.6
Hulting 380B.....	113.0	17.7	52	94	8.3
Hulting 680.....	106.0	17.5	45	93	4.6
Illinois 21 (Mountjoy).....	100.6	18.0	51	76	7.3
Illinois 1246 (Station).....	102.9	16.9	53	88	5.8
Illinois 1570 (Stone).....	108.4	19.0	50	87	7.6
Illinois 1896 (Station).....	98.3	18.0	61	91	11.9
Illinois 1919 (Station).....	112.8	17.8	62	87	1.8
Illinois 6021 (Station).....	108.6	17.7	56	87	17.6
Keystone 38A.....	98.7	17.7	69	87	6.6
Moews 520.....	120.6	18.0	56	95	4.5
Moews 523.....	107.4	18.3	45	90	4.7
Moews 524.....	110.2	17.7	55	93	7.9
Morton M-6.....	110.5	21.5	47	94	10.8
Morton M-70.....	97.0	17.4	47	84	6.0
Mountjoy M-64.....	103.8	17.3	32	95	10.5
Munson M15.....	113.0	17.6	53	92	2.7
Munson M119.....	110.6	18.1	60	77	9.8

<sup>a</sup> Ainsworth X-13-3 inadvertently omitted from 1955 test.

(Table is concluded on next page)

Table 6.—CENTRAL ILLINOIS: Urbana—concluded

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>1955 RESULTS—concluded</b>					
P.A.G. 173.....	111.5	18.1	60	88	14.1
P.A.G. 351.....	96.7	17.6	58	74	4.6
P.A.G. 383.....	102.9	17.3	64	86	7.4
P.A.G. 401.....	114.1	16.6	62	89	4.5
P.A.G. 403.....	109.9	17.1	68	93	6.3
P.A.G. 444.....	123.5	19.4	69	97	1.8
Pioneer 301B.....	106.1	16.6	75	88	10.4
Pioneer 302.....	101.1	19.6	55	83	9.4
Pioneer 313B.....	117.3	18.9	36	93	11.4
Pioneer 316.....	118.7	17.1	58	89	4.7
Pioneer 329.....	106.1	17.9	59	94	5.5
Pioneer 6727.....	117.9	18.2	40	89	5.5
Producers 13-1.....	99.2	17.7	65	88	11.3
Producers 900.....	106.0	18.1	60	87	6.5
Producers 940.....	111.8	17.0	38	96	4.4
Producers 1018.....	102.7	17.0	53	91	12.7
Schwenk S-24.....	102.5	19.4	53	86	10.8
Schwenk S-34.....	112.5	18.2	53	94	9.7
Southern States Mohawk.....	90.8	16.2	67	76	5.4
Southern States Pocohontas.....	106.3	17.1	79	80	5.5
Stiegelmeier S-300.....	93.4	18.7	65	93	8.1
Stiegelmeier S-340.....	96.5	19.3	61	92	9.2
Stiegelmeier S-400.....	94.1	20.1	82	90	13.0
Super-Crost 880.....	99.5	18.4	57	92	8.0
Tiemann T-72.....	109.3	18.0	73	82	10.8
Tiemann T-78.....	104.6	16.5	67	87	8.5
Trisler T-19B.....	108.3	18.2	55	73	6.8
Trisler T-32.....	111.8	17.4	56	91	11.1
Trisler T-32B.....	111.0	19.0	67	87	1.8
Trisler T-33.....	113.0	17.7	66	91	4.6
Trisler T-33B.....	117.3	18.1	67	89	12.2
Trisler T-45.....	107.0	19.6	53	93	12.5
U.S. 13 (Stone).....	103.5	17.9	58	87	11.8
Whisnand 804.....	95.6	17.6	57	90	6.5
Whisnand 830.....	116.4	16.7	82	90	.9
Whisnand 851.....	124.2	18.9	76	83	2.8
Average of all entries.....	107.3	18.0	60	89	7.6
Difference necessary for significance.....	19.6	....	19.6	12.9	7.9

## Table 7.—SOUTHERN ILLINOIS: Brownstown

(Performance data of highest-yielding hybrid and of all hybrids not significantly lower in yield are shown in boldface type)

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand
<b>SUMMARY: 1953-1955</b>				
Tiemann T-78.	54.4	13.4	75	91
Munson M119.	53.9	14.2	69	93
Funk G-91.	53.6	15.3	72	89
Tiemann T-72.	52.6	14.7	71	95
Producers 13-1.	51.8	15.0	71	92
Canterbury 400.	51.7	14.0	70	95
Haudrich 13.	51.0	15.3	77	96
Producers 946.	51.0	14.3	76	84
Ainsworth X-14-3.	50.8	15.2	76	90
Canterbury 420.	50.7	14.2	70	94
Ainsworth X-13-3.	50.4	14.5	70	92
Bear OK-72B.	50.2	14.8	75	97
Bear OK-50A.	49.1	14.7	73	91
Canterbury 126.	49.1	14.0	70	92
P.A.G. 383.	49.0	14.7	70	91
Bruns P-38.	48.5	12.9	72	85
Crow's 805.	47.9	14.2	71	90
Illinois 1570 (Bruns).	47.8	14.6	70	90
Producers 1018.	47.5	14.5	72	91
Crow's 825.	47.2	14.1	73	83
U.S. 13 <sup>a</sup> .	45.8	13.8	70	84
P.A.G. 403.	45.8	14.6	74	94
P.A.G. 631(W).	45.8	16.6	62	91
Producers 1050.	45.6	13.8	66	91
Trisler T-32B.	45.4	15.5	71	83
Moews CB 60A.	45.3	15.9	69	86
Moews CB 70A.	45.3	14.0	76	85
DeKalb 875.	44.5	14.3	74	90
Pioneer 6727.	44.3	16.1	69	89
Pioneer 302.	42.9	16.2	70	90
Pioneer 316.	42.3	15.6	75	92
AES 805 <sup>b</sup> .	41.5	15.2	72	85
Haudrich 784.	40.9	17.4	72	89
Illinois 1656 (Mountjoy).	40.8	14.1	71	90
Haudrich 200.	40.6	16.2	70	91
Whisnand 851.	39.3	17.9	71	90
P.A.G. 620(W).	35.9	17.6	65	90
Average of all entries.	47.0	15.1	71	89
Difference necessary for significance.	14.2	2.2	7.8	7.7

## 1955 RESULTS

AES 805 (Station).	51.0	17.4	36	79
Ainsworth X-13-3.	60.5	16.3	20	90
Ainsworth X-14-3.	56.6	17.7	38	93
Ainsworth X-14-4.	62.8	17.6	17	92
Appl A-130.	63.7	15.9	28	90
Bear OK-50A.	67.2	15.0	28	86
Bear OK-69.	55.9	16.0	50	91
Bear OK-72B.	66.6	16.4	40	97
Bear OK-96.	56.3	17.0	27	93
Bruns P-38.	52.4	13.6	27	76
Canterbury 126.	62.5	16.5	23	93
Canterbury 400.	69.5	15.5	21	96
Canterbury 420.	64.0	15.8	28	94
Crow's 805.	63.3	15.8	28	94
Crow's 825.	62.9	16.6	27	81

<sup>a</sup> Average of U.S. 13 (Plymouth) 1953, U.S. 13 (Graham) 1954, and U.S. 13 (Station) 1955.<sup>b</sup> Average of AES 805 (Station) 1953, AES 805 (Graham) 1954, and AES 805 (Station) 1955.

(Table is concluded on next page)

Table 7.—SOUTHERN ILLINOIS: Brownstown—concluded

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand
<b>1955 RESULTS—concluded</b>				
DeKalb 817A	57.4	16.8	43	84
DeKalb 852	46.9	18.0	16	78
DeKalb 875	59.8	16.9	38	89
DeKalb 876	56.8	17.5	35	97
DeKalb 898	68.2	19.4	30	93
DeKalb 925(W)	64.9	18.1	16	98
Funk G-91	80.8	16.3	26	93
Funk G-95A	64.1	17.0	44	84
Graham G.C. 870	55.1	17.7	29	91
Graham G.C. 880	50.6	15.7	38	92
Haudrich 13	65.8	16.9	44	96
Haudrich 21	71.6	15.4	35	88
Haudrich 200	61.3	17.3	30	91
Haudrich 784	56.7	17.0	31	89
Illinois 1511 (Appl)	61.3	16.5	15	91
Illinois 1570 (Bruns)	49.3	15.2	28	92
Illinois 1656 (Mountjoy)	39.7	15.9	26	86
Illinois 1850 (Station)	32.6	20.4	22	93
Illinois 1852 (Station)	71.8	16.8	48	80
Illinois 1857 (Station)	50.0	17.6	15	86
Keystone 107(W)	56.5	21.6	17	90
Moews CB 60A	49.5	17.4	29	79
Moews CB 69A	59.3	18.2	10	76
Moews CB 70A	67.0	16.0	42	80
Moews CB 90A	57.9	16.9	24	93
Munson M119	70.1	15.2	20	98
P.A.G. 173	55.1	15.9	29	77
P.A.G. 383	62.2	16.2	29	97
P.A.G. 401	58.3	15.8	26	91
P.A.G. 403	50.7	16.0	37	96
P.A.G. 444	63.9	15.1	34	94
P.A.G. 620(W)	44.9	17.3	14	90
P.A.G. 631(W)	69.4	17.6	15	94
Pioneer 302	55.9	20.0	29	82
Pioneer 312A	69.0	19.8	32	79
Pioneer 313B	56.6	19.9	14	87
Pioneer 316	50.2	18.5	32	94
Pioneer 332	60.1	17.7	11	93
Pioneer 6727	55.0	21.7	20	79
Producers 13-1	66.9	16.5	23	93
Producers 940	61.9	18.7	32	94
Producers 946	71.4	16.3	38	74
Producers 1018	55.1	16.5	25	86
Producers 1050	51.8	15.3	12	92
Southern States Potomac	41.9	17.6	20	94
Super-Crost 700A	70.5	16.3	24	90
Super-Crost 840	56.9	17.3	27	87
Tiemann T-72	71.6	16.0	21	94
Tiemann T-78	66.9	14.8	34	87
Trisler T-32	56.9	16.0	17	93
Trisler T-32B	48.3	16.9	24	76
Trisler T-33	49.4	16.9	19	94
Trisler T-33B	61.8	16.2	20	97
Trisler T-45	54.8	22.8	28	86
U.S. 13 (Station)	39.2	16.5	29	69
Whisnand 830	61.2	16.2	45	74
Whisnand 851	46.9	21.8	25	87
Average of all entries	58.7	17.0	28	89
Difference necessary for significance	27.0	....	18.5	18.8

Table 8.—EXTREME SOUTHERN ILLINOIS: Ridgway 1953,  
Eldorado 1954, Carbondale 1955

(Performance data of highest-yielding hybrid and of all hybrids  
not significantly lower in yield are shown in boldface type)

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>SUMMARY: 1953-1955</b>					
DeKalb 925(W).....	95.3	21.1	96	92	...
Pioneer 316.....	93.6	16.9	95	95	...
Funk G-711.....	91.9	20.9	91	86	
P.A.G. 631(W).....	91.8	20.1	96	88	
Pioneer 6727.....	90.1	18.0	94	88	
Tiemann T-78.....	88.1	16.6	97	93	
Moews CB 60A.....	87.2	17.8	95	86	
Whisnand 851.....	86.7	18.7	96	90	
U.S. 13*.....	86.3	16.8	96	87	
Haudrich 126.....	86.2	16.7	98	86	
Crow's 825.....	86.1	17.3	98	81	
P.A.G. 620(W).....	85.6	17.7	95	87	
Producers 1050.....	85.4	15.8	94	89	
DeKalb 898.....	85.0	18.0	96	90	
Stull 400-W.....	84.8	17.6	95	87	
Moews CB 90A.....	84.7	17.1	95	85	
Pioneer 302.....	84.0	19.0	97	88	
Crow's 805.....	83.2	16.6	94	88	
Moews CB 69A.....	82.7	18.7	93	87	
Haudrich 13.....	81.7	17.0	98	91	
Haudrich 21.....	81.7	16.4	96	90	
Haudrich 10(W).....	81.6	17.3	96	86	
Haudrich 200.....	80.4	17.5	97	87	
P.A.G. 403.....	78.7	16.0	96	91	
Producers 13-1.....	77.6	16.6	94	86	
Average of all entries.....	85.6	17.7	96	88	...
Difference necessary for significance.....	18.5	2.0	5.2	6.2	...

### 1955 RESULTS

AES 805 (Station).....	88.2	20.4	97	92	0
Ainsworth X-14-3.....	79.3	19.4	93	84	0
Ainsworth X-14-4.....	92.8	19.1	79	89	0
Bear OK-72A.....	81.8	20.4	96	90	0
Bear OK-890.....	80.2	20.8	94	86	0
Crow's 805.....	79.0	20.6	85	88	0
Crow's 825.....	78.3	21.7	98	78	0
DeKalb 817A.....	86.5	18.1	85	89	0
DeKalb 852.....	62.9	20.7	90	83	1.8
DeKalb 875.....	78.3	20.0	79	86	.9
DeKalb 876.....	78.4	22.7	92	87	2.7
DeKalb 898.....	79.5	21.1	94	90	1.0
DeKalb 925(W).....	96.3	24.1	94	89	0
DeKalb 1002.....	79.0	22.4	77	85	0
Funk G-134.....	57.3	21.2	96	74	0
Funk G-704.....	98.2	23.6	93	83	0
Funk G-711.....	86.6	25.6	81	82	.9

\* Average of U.S. 13 (Station) 1953, U.S. 13 (Graham) 1954, and U.S. 13 (Station) 1955.

(Table is concluded on next page)

Table 8.—EXTREME SOUTHERN ILLINOIS: Ridgway 1953,  
Eldorado 1954, Carbondale 1955—concluded

Entry	Total acre yield	Moisture in grain at harvest	Erect plants	Stand	Dropped ears
<b>1955 RESULTS—concluded</b>					
	<i>bu.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>	<i>perct.</i>
Haudrich 10(W).....	83.3	18.6	94	84	0
Haudrich 13.....	76.3	18.7	97	88	0
Haudrich 21.....	80.3	18.4	90	86	0
Haudrich 126.....	93.5	18.8	99	86	1.8
Haudrich 200.....	70.5	20.3	95	89	.9
Haudrich 784.....	72.2	20.4	93	91	0
Illinois 1570 (Station).....	77.3	20.6	81	90	.9
Illinois 1850 (Station).....	67.7	22.3	95	89	.9
Illinois 1852 (Station).....	81.7	21.0	94	89	.9
Illinois 1913 (Station).....	85.7	17.5	99	87	.9
Illinois 1919 (Station).....	87.6	19.3	85	92	0
Keystone 222.....	89.7	29.4	93	86	0
Moews CB 60A.....	84.8	21.1	91	82	.9
Moews CB 69A.....	72.0	21.2	83	86	1.9
Moews CB 70A.....	98.2	19.3	94	94	0
Moews CB 90A.....	79.8	20.0	92	79	0
P.A.G. 401.....	77.2	19.5	98	87	2.6
P.A.G. 403.....	65.1	18.2	91	87	1.1
P.A.G. 444.....	66.1	21.6	96	87	0
P.A.G. 620(W).....	84.4	18.1	92	87	2.0
P.A.G. 631(W).....	96.0	22.8	98	88	0
Pioneer 302.....	66.1	20.3	97	81	0
Pioneer 312A.....	90.6	22.9	95	92	0
Pioneer 313B.....	69.0	19.7	85	88	0
Pioneer 316.....	87.8	18.7	90	95	0
Pioneer 332.....	87.6	21.0	85	88	0
Pioneer 6727.....	73.5	22.8	93	80	0
Producers 13-1.....	69.5	18.7	84	84	0
Producers 940.....	82.2	18.9	94	91	0
Producers 1018.....	89.8	18.9	91	87	1.9
Producers 1050.....	88.4	18.6	87	87	0
Stull 100-Y.....	75.5	18.7	93	88	0
Stull 100-YA.....	82.8	21.7	96	84	0
Stull 102-Y.....	95.7	21.1	97	91	0
Stull 400-W.....	102.1	20.2	89	95	.9
Stull 400-WA.....	64.9	20.9	90	88	0
Super-Croft 700A.....	82.4	18.7	97	85	0
Tiemann T-72.....	83.4	18.0	96	87	0
Tiemann T-78.....	85.5	19.6	97	95	.8
Trisler T-32.....	73.5	19.8	96	84	0
Trisler T-32B.....	103.1	21.1	96	91	0
Trisler T-33.....	83.6	20.6	90	89	1.0
Trisler T-33B.....	66.4	18.7	96	80	2.2
Trisler T-45.....	96.1	23.4	86	94	.9
U.S. 13 (Station).....	77.4	18.8	92	88	.9
Whisnand 830.....	86.9	20.3	96	87	1.0
Whisnand 851.....	91.8	22.2	94	87	0
Average of all entries.....	81.7	20.5	92	87	.5
Difference necessary for significance.....	29.0	....	9.9	11.6	1.9

## SUMMARY

In 1955, 252 hybrids were grown on five test fields in Illinois. Growing conditions were generally excellent at all locations, although wet weather delayed planting unduly at Brownstown and Carbondale, and late-season moisture shortages probably caused some reduction in yields at DeKalb, Brownstown, and Carbondale.

**1955 yields.** The Galesburg field, in western north-central Illinois, had the highest average yield, 108.2 bushels per acre. The average yield at Urbana, in central Illinois, was close behind at 107.3 bushels per acre. Average yields per acre on the other three test fields were: DeKalb, 84.7, Brownstown 58.7, Carbondale 81.7.

The average yield of all hybrids tested was 89.9 bushels. This was nearly 8 percent above the 1954 average, and was the second highest average yield ever recorded in these tests. It has been exceeded only by the record average of 92 bushels in 1948. Only the DeKalb field had a lower average yield than the corresponding test in 1954.

**Three-year summaries, 1953-1955.** The highest-yielding hybrids in the three-year summaries were the following:

*Northen Illinois* — Hulting 238, P.A.G. 234, Illinois 1091A (Dittmer), Sieben S-340, Holmes 11A, Munson M-5.

*West North-Central* — Holmes 39, Pioneer 313B, Tiemann T-78, Schwenk S-24, Schwenk S-34, Funk G-95.

*Central* — Holmes 39, Canterbury 420, Appl A-159, Funk G-95, Bear OK-72, Canterbury 400.

*Southern* — Tiemann T-78, Munson M-119, Funk G-91, Tiemann T-72, Producers 13-1, Canterbury 400.

*Extreme Southern* — DeKalb 925 (W), Pioneer 316, Funk G-711, P.A.G. 631 (W), Pioneer 6727, Tiemann T-78.

**Lodging.** Approximately 90 percent of the plants in the tests at DeKalb, Galesburg, and Carbondale were erect at harvest. Lodging, mostly in the form of stalk-breakage, was severe at

Urbana and very severe at Brownstown. More than 70 percent of the plants in the Brownstown test were lodged at harvest. Significant differences between hybrids in percentage of plants erect at harvest were observed at all locations.

**Moisture.** The average moisture content in the grain averaged 20.8 percent for all hybrids tested. Average moisture percentages were below 21 percent at the three southernmost locations, but above 23 percent in both northern tests.

**Stand.** The average stand obtained for all entries tested was 89 percent.

**Disease damage.** Stalk rots were severe on the test fields at Urbana and Brownstown, resulting in serious late-season stalk breakage. Only sporadic occurrence of stalk rot was noted on the other three test fields.

Data on disease prevalence and estimates of losses for the state are again included. Charcoal Rot, normally a relatively uncommon disease in the state, caused more damage than ever previously recorded. Diplodia and Gibberella stalk rots also were unusually severe in 1955.

**Seed-treatment test.** Highly significant increases in yield were observed to result from seed treatment in a test involving three dates of planting. Increases in stand from treatment were greatest in the latest-planted corn, but increases in yield were greatest for the earliest planting date.

The average increase in yield from all treatments was 9.7 bushels, or 9.3 percent.

## CONTRIBUTORS OF SEED

AES Hybrids.....	AES 805 (Ill. Agr. Exp. Sta.)	
Ainsworth Hybrids.....	Ainsworth Seed Co.....	Mason City
Appl Hybrids.....	Appl's Hybrid Seed Co.....	St. Joseph
Bear Hybrids.....	Bear Hybrid Corn Co.....	Decatur, Box 628
Brun's Hybrids.....	Brun's Seed Co.....	Camp Point
Canterbury Hybrids.....	C. E. Canterbury Seed Co.....	Cantrall
Crow's Hybrids.....	Crow's Hybrid Corn Co.....	Milford
Currens Hybrids.....	F. H. Currens Seed Farm.....	Macomb
DeKalb Hybrids.....	DeKalb Agricultural Assn.....	DeKalb
Doubet Hybrids.....	E. W. Doubet.....	Hanna City
Frey Hybrids.....	Frey Hybrid Corn Co.....	Gilman
Funk Hybrids.....	Funk Brothers Seed Co.....	Bloomington
Graham Hybrids.....	Graham Seed Co.....	Springfield
Griffith Hybrids.....	Griffith Seed Co.....	Bloomington
Haudrich Hybrids.....	Haudrich Hybrid Corn Co.....	Belleview
Holmes Hybrids.....	Holmes Hybrids.....	Edelstein
Huebsch Hybrids.....	L. A. Huebsch & Son.....	Mundelein
Huey Hybrids.....	Huey Seed Co.....	Carthage
Hulting Hybrids.....	G. E. Hulting & Son.....	Geneseo
Illinois Hybrids.....	Ill. 21 (Dittmer Seeds, Carthage; Mountjoy) Ill. 101 (L. A. Huebsch & Son) Ill. 1091 (Mountjoy) Ill. 1091A (Dittmer) Ill. 1246 (Ill. Agr. Exp. Sta.) Ill. 1277 (Nichols) Ill. 1280 (A. I. Coldwater & Son, Elwood) Ill. 1511 (Appl) Ill. 1570 (Ill. Agr. Exp. Sta.; Bruns; Dittmer; R. G. Stone, Pleasant Plains) Ill. 1656 (Mountjoy) Ill. 1831, 1850, 1852, 1857 (Ill. Agr. Exp. Sta.) Ill. 1863 (Huebsch) Ill. 1896, 1902, 1913, 1919, 6021 (Ill. Agr. Exp. Sta.)	
Keystone Hybrids.....	Corneli Seed Co.....	101 Chouteau Ave., St. Louis, Mo.
Moews Corn Belt Hybrids.....	Moews Corn Belt Co., Inc.....	Boswell, Ind.
Moews Hybrids.....	Moews Seed Co.....	Granville
Morton Hybrids.....	Roy A. Morton & Sons.....	Bowen
Mountjoy Hybrids.....	Mountjoy Hybrid Seed Co.....	Atlanta
Munson Hybrids.....	Munson Hybrids.....	Galesburg
Nichols Hybrids.....	Nichols Bros.....	Hebron
Null Hybrids.....	Null Seed Farms.....	Colchester
P.A.G. Hybrids.....	Pfister Assoc. Growers, Inc.....	Aurora
Pioneer Hybrids.....	Pioneer Hi-Bred Corn Co. of Ill.....	Princeton
Producers Hybrids.....	Producers Seed Co.....	Piper City
Schwenk Hybrids.....	W. T. Schwenk & Sons.....	Edwards
Sieben Hybrids.....	Sieben Hybrids.....	Geneseo
Smiley Hybrids.....	Glenn Smiley.....	Milford
Southern States Hybrids.....	Cooperative Seed & Farm Supply Co.....	Muncie
Steckley Hybrids.....	Steckley Hybrid Corn Co.....	2416 N. St., Lincoln, Nebr.
Stewart Hybrids.....	Frank S. Stewart.....	Princeville
Stiegelmeier Hybrids.....	H. L. Stiegelmeier.....	Normal
Stull Hybrids.....	Stull Corn Co.....	Sebree, Ky., Kentland, Ind.
Super-Crost Hybrids.....	E. J. Funk & Sons.....	Bloomington
Tiemann Hybrids.....	Tiemann Seed Co.....	Fairmount
Trisler Hybrids.....	J. L. Trisler.....	
U.S. Hybrids.....	U.S. 13 (Ill. Agr. Exp. Sta.; Stone)	
Whisnand Hybrids.....	Myron Whisnand.....	Arcola

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## PEDIGREES OF 24 HYBRIDS

Following is a list of open-pedigree hybrids whose performance is shown in this bulletin.

AES 805..(WF9×38-11)(C103×Oh45)	Ill. 1831..(WF9×W146)(K237×Oh45)
Ill. 21 ..(WF9×38-11)(Hy2×187-2)	Ill. 1850 ..(CI.21E×C103)(38-11×K201)
Ill. 101 ..(WF9×M14)(187-2×W26)	Ill. 1852 ..(CI.21E×C103)(38-11×Oh7)
Ill. 1091 ..(WF9×Hy2)(M14×187-2)	Ill. 1857 ..(K201×CI.21E)(38-11×Oh41)
Ill. 1091A ..(WF9×M14)(Hy2×187-2)	Ill. 1863 ..(WF9×M14)(L.205×Oh43)
Ill. 1246 ..(WF9×38-11)(R61×187-2)	Ill. 1896 ..(R138×R139)(R140×R141)
Ill. 1277 ..(WF9×M14)(L.205×187-2)	Ill. 1902A ..(WF9×R139)(R138×R142)
Ill. 1280 ..(WF9×M14)(Os420×187-2)	Ill. 1913 ..(WF9×38-11)(R151×R154)
Ill. 1511 ..(WF9×Hy2)(38-11×L304A)	Ill. 1919 ..(WF9×38-11)(R130×R156)
Ill. 1570 ..(WF9×38-11)(Hy2×Oh41)	Ill. 6021 ..(R75×R76)(R84×K4)
Ill. 1656 ..(WF9×38-11)(Hy2×C103)	U.S. 13 ..(WF9×38-11)(Hy2×L317)

## NOTES

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